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REACH Represents New Approach to Regulating Toxic Effects

By Clifton Curtis, *World Wildlife Fund*

Over the past half century, scientists have uncovered a multitude of risks to wildlife and humans posed by toxic chemicals. Some of the most notorious chemicals – such as PCBs, lead, and DDT – have been banned or tightly restricted. Yet while a handful of chemicals are slowly disappearing from the environment, new research is revealing that many other chemicals could be even more harmful than the infamous ones. Wildlife and humans are simultaneously suffering contamination by chemicals no longer in production, as well as chemicals currently in use.

Since the early 1990s, World Wildlife Fund (WWF) has studied the impacts of toxic chemicals on biodiversity. Chemicals that can alter sexual, neurological and behavioral development; impair reproduction; and undermine immune

systems threaten wildlife, people and entire ecosystems around the world.

Existing regulation is neither comprehensive nor effective in protecting wildlife and human health. However, in the European Union (EU) reforms are underway that could fundamentally change the way chemicals are managed, with possible global implications. Ensuring the success of the proposed reforms known as REACH (Registration, Evaluation and Authorization of Chemicals) is a top priority for WWF.

Causes for Concern

Many chemicals in wide use today are assumed to be safe by regulatory agencies, consumers, and other downstream users. However, many of the chemicals used to produce a variety of consumer products are contami-

nating the environment and can have dangerous effects. Four classes of chemicals demonstrate the current policy failure and the need for improved protections.

Brominated flame retardants (BFRs) in furniture, building material, and clothing have become a serious concern, as their levels are showing sharp increases in living organisms. Concentrations of BFRs in Great Lakes herring gulls may exceed concentrations of PCBs within 10 to 15 years. BFRs have also been found in sperm

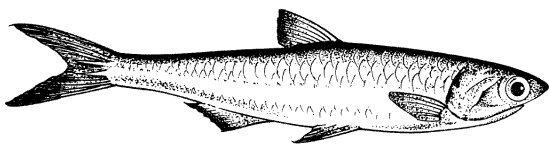
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whales, ringed seals from the Canadian Arctic, mussels and fish in Norwegian waters, and harbor seals in San Francisco Bay, among other wildlife.

High levels of several BFRs have recently been found in the eggs of peregrine falcons. The eggs of falcons living in the wild had significantly higher concentrations of the BFR 'deca-BDE' than eggs of captive falcons. The fact that deca-BDE was found in eggs demonstrates that the chemical can cross cell membranes, contrary to what scientists had previously thought. The peregrine study represents the first time that the deca formulation has been found in wildlife. Studies have shown that certain BFRs are highly toxic to aquatic animals, affecting development, neurological function, and behavior in mammals.

Another example of potentially hazardous chemicals in consumer-based products involves a class of *perfluorinated compounds*, including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). In 2000, 3M announced plans to phase out the perfluorooctanyl chemistry that underpinned their extremely successful Scotchgard™ products. Under pressure from the US Environmental Protection Agency, 3M took this action after learning that PFOS and PFOA were found in blood samples from the U.S. population and in wildlife across the globe.

Able to resist heat and repel both water and oil, perfluorinated compounds have been widely used since the 1950s as surfactants and emulsifiers and in commercial products, including stain or water protectors for carpet, auto interiors, and leather; food packaging; floor polishes; shampoos; and dental cleaners. PFOA is a manufacturing aid used

to produce Teflon® and Gortex®. These compounds are extremely persistent—there is no evidence that they ever fully degrade.

Perfluorinated compounds are contaminating bottlenose, common, and striped dolphins, whales, bluefin tuna, swordfish, and cormorants in the Mediterranean; ringed and gray seals, sea eagles, and Atlantic salmon in the Baltic; polar bears in the Arctic; river dolphins in India; albatrosses from Midway Atoll in the Pacific; turtles in the United States; gulls in Korea; cormorants in Canada; and fish in Japan.

PFOS exposure can lead to loss of appetite, interrupted estrus cycles, and elevated stress hormone levels. PFOS and PFOA are considered carcinogens and studies indicate that they can damage the immune system and can affect the development of the brain, liver, spleen, thymus, adrenal gland, kidney, prostate, and testes.

Phthalates, which are used as softeners in a variety of plastic products, are another group of problematic chemicals. Products containing phthalates include medical devices (intravenous tubing, blood bags), building products (insulation of wires, tubes, flooring, wallpapers, sealants), car products (car under-coating, car seats) and children's products (teething rings, squeeze toys, clothing).



Phthalates are also used in some lacquers, paints, adhesives, and cosmetics. Concern about children's exposure to phthalates prompted the EU to ban six types of phthalate softeners in polyvinyl chloride (PVC) toys designed to be mouthed by children less than three years of age.

Some phthalates appear to exert endocrine disrupting effects, and can interfere with the male hormone, androgen. Some researchers have proposed that the anti-androgenic properties of phthalates might be linked to testicular dysgenesis

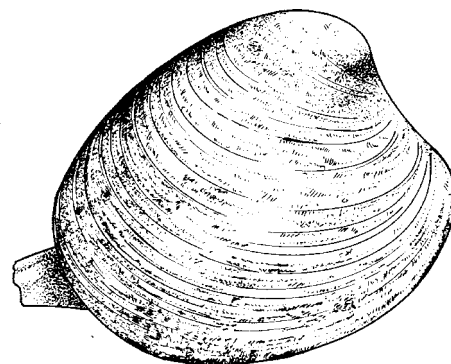


syndrome, the manifestations of which range from birth defects in males, to low sperm counts and testicular cancer. Other research has demonstrated a variety of reproductive malformations.

There is mounting evidence that the widely used *phenol compounds* bisphenol A (BPA) and nonylphenol are endocrine disrupting chemicals. BPA is used to make polycarbonate plastic, which has diverse applications in packaging, computer and electronics equipment, compact disks, crash helmets, and other consumer products. Nonylphenolic compounds have been used in degreasing solutions, in leather and textile processing, as well as in de-icing fluid, paints, plastics, and pesticides.

Fish are susceptible to the endocrine disrupting effects of both nonylphenol and BPA. Exposure to these chemicals can cause male fish to make vitellogenin (an estrogen-regulated protein pro-

duced by female egg-laying vertebrates and not normally produced by males), and can also affect the formation of sperm.



Aquatic invertebrates such as freshwater algae and mollusks seem particularly sensitive to these chemicals. Studies have linked BPA exposure to interference with egg and embryo production and malformed genitals in mollusks and nonylphenol exposure to altered sex ratios and hermaphroditism in oysters.

We know that chemical production is increasing globally, wildlife contamination is pervasive, and a variety of troubling health threats are apparent. The EU's proposed REACH system, which would shift the burden of proving the health and environmental safety onto companies that manufacture, use, and import most major industrial chemicals, represents the most promising international political response to these problems.

REACH provides a valuable model that could help US policy-makers, businesses, and consumers confront chemical contamination and improve the way chemicals are managed. Meanwhile, state and local initiatives demonstrate how progress can be made in advance of national action.

Funder Roles

The field of chemicals and health has been supported by a number of forward-looking foundations, including the Jenifer Altman Foundation, Jessie B. Cox Charitable Trust, Bauman Founda-



tion, Richard and Rhoda Goldman Fund, Homeland Foundation, Joyce Foundation, John Merck Fund, V. Kann Rasmussen Foundation, Wallace Global Fund, and others.

Scientific analysis, awareness raising, policy advocacy, and business engagement are essential ingredients in addressing the threats of hazardous chemicals. The urgency of these threats calls for a coordinated response from the conservation and health communities, with funders playing an important role in supporting key activities.

Invest in science. New research is providing a better understanding of how chemicals behave in the environment and what dangers they pose to humans and wildlife. Applied research is needed to develop assays and screens to assess chemicals. “Second order science” is important, synthesizing results from the literature on chemical exposures, effects, and alternatives and translating this into practical guidance.

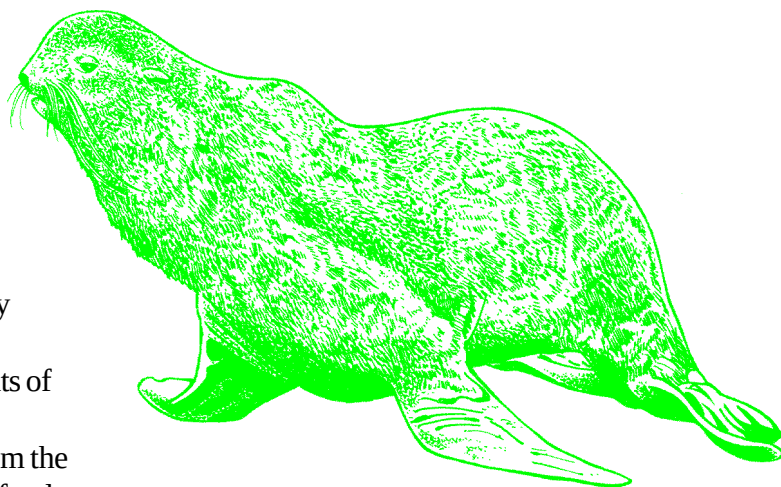
Build awareness, outreach and networks.

Information sharing helps ensure a more engaged citizenry. Media outreach, brochures, consumer guides, Web sites, and other tools raise awareness of chemical safety beyond policy audiences to a broader cross section of interested publics.

Strategic initiatives such as workshops and skill-shares are needed to advance existing networks and to engage other constituencies, including consumer groups, workers, faith communities, organic advocates, scientists, and business leaders. Bringing these groups together can enhance their advocacy for improved protections from hazardous chemicals.

Engage in policy education and advocacy.

There is a clear need to engage and inform key decision makers at the international, national, state and local levels to take meaningful action on hazardous chemicals, and to spur development of safer substances and processes. Reports and



other resource materials, press outreach, special issue briefings, and online advocacy may help advance a more constructive outlook on chemicals policy – internationally and domestically.

Catalyze change through forward-thinking businesses. While most chemical producers resist reform, many businesses are likely to benefit. By investing in safer products, companies stand to gain from markets that require product safety information and phase out dangerous, untested chemicals.

“Downstream users” of chemicals (e.g., furniture, automotive, consumer product makers as well as retailers) are especially well-placed to demonstrate how they can thrive with safer chemicals, with practices that could include procurement reforms, improved company/product chain safety information, and increased public accountability. Business leaders must be cultivated and encouraged to voice support for enlightened chemicals management.

Additional Information

www.worldwildlife.org/toxics
www.panda.org/detox
www.ourstolenfuture.org
www.ewg.org



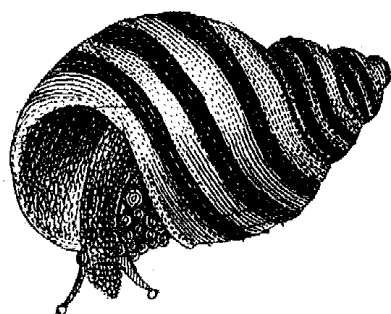
MEMBER NEWS

Sharon Alpert has joined the Surdna Foundation as Associate Program Officer for the Environment in late April. She recently completed a term at the Ford Foundation as Program Associate for Community and Resource Development, and has held a variety of other positions with environmental and community-based organizations. Sharon received a B.S. in Agricultural, Resource & Managerial Economics, and a Master of Public Administration, both from Cornell University. She wrote her Master thesis on strategies for incorporating equity concerns into environmental policymaking.

Gary Tabor from Wilburforce Foundation has been appointed to the Board of Governors for the Society for Conservation Biology (SCB). His role is Chair of the Development Committee and foundation member liaison. Others on the committee include Deborah Jensen, President of SCB, John Robinson, President Elect 2005 and from Wildlife Conservation Society, Eleanor Sterling from American Museum of Natural History, Elliott Norse from the Marine Conservation Biology Institute and Nick Salafsky from Foundations of Success.

The Funders Network for Smart Growth and Livable Communities announced election of **Jon Jensen**, Senior Program Officer for the George Gund Foundation, as chairman of the board of trustees. The Funders Network is a US/Canada affinity group of over 100 foundations focused on “working to solve the environmental, social, and economic problems created by suburban sprawl and urban disinvestment.” Jon is a former program officer of the Pew Charitable Trusts, and established the Pew Scholars Program in

Conservation and the Environment. He is a founder of the Environmental Grantmakers Association, and has twice served as chair of that national affinity group.



Anya Schoolman has joined the staff of the Wyss Foundation as Director of Westwide Programs. She will be in charge of grant making on cross-cutting issues affecting the American West, including energy, mining, grazing, public land-management, base-broadening, and voter-education/mobilization. Previously she was the Director of Policy and Director of Ecoregion Support in the Endangered Species Program at World Wildlife Fund. She also served as Senior Advisor to the Executive Vice President for Programs at WWF. Before that she worked for seven years in the Office of the Secretary at the Department of Interior. She has a Masters of International Relations from Columbia University in New York.

Dr. Lois E. H. Smith of Boston and **Astrid Kann-Rasmussen** have been elected as trustees of the V. Kann Rasmussen Foundation, bringing the total membership to six.

CGBD WORKING GROUPS

Marine Conservation

Based on discussions at the February meeting in Miami, the Working Group has recently completed its workplan for 2004-05.

Objectives for the coming year include:

- Ensure funder coordination and collaboration on long-term strategies to implement the recommendations of the Pew Oceans Commission and the National Oceans Commission;
- Investigate strategies to improve the effectiveness of public advocacy for the oceans;
- Educate funders on a wide range of international marine conservation issues, looking for strategic linkages to US domestic issues; and
- Monitor developments on a wide range of marine conservation issues, including (but not limited to) fisheries management reform, establishment of a worldwide network of marine protected areas, reducing the global environmental impacts of mariculture, and promoting a worldwide consumer seafood movement.

The group will undertake the following programs in the coming twelve months:

- An annual winter meeting (February/March) to educate funders on a variety of marine conservation issues and to investigate opportunities for collaboration;
- A series of monthly conference calls on marine conservation issues, with an initial emphasis on international marine conservation issues that were not adequately addressed during the 2004 winter meeting in Miami; and
- Other meetings collaboration opportunities in a timely manner.



Climate and Energy

Climate on the Silver Screen: In April the Climate and Energy Funders Group hosted a “FANGO” (Funders and NGOs) discussion via teleconference about a disaster movie depicting catastrophic events resulting from abrupt climate change. *The Day After Tomorrow*, opening Memorial Day weekend in theaters worldwide (see www.thedayaftertomorrow.com), has become a hook for a range of groups to engage in communications, public education, organizing, and advocacy about climate change.

There was broad agreement about the importance of putting extreme scenarios in perspective. While abrupt climate change is possible, incremental climate change already is occurring, it poses very serious threats to ecosystems, wildlife and humans, and much can be done about it. Sources to help separate “science from science fiction” on abrupt climate change include:

- National Academies of Science’s National Research Council report: “Abrupt Climate Change: Inevitable Surprises” (www.nap.edu/books/0309074347/html)
- Intergovernmental Panel on Climate Change assessment of the state of science on abrupt climate change: (www.ipcc.ch/pub/spm22-01.pdf)
- Pentagon-commissioned report on abrupt climate change as a security concern, and related press: (www.ems.org/climate/pentagon_climate_change.html)

Forest Conservation

The *Public Lands Funders* sub-group has also completed its workplan for the coming year. The group will focus on increasing the level of funding available to NGOs and campaigns focused on protection of US public lands and ensuring collaboration and coordination among foundations with programs devoted to conservation of US public lands, by providing opportunities for information sharing, dialogue, and development of complementary grantmaking strategies.

The group's programs will include:

- A series of bi-monthly conference calls on public lands conservation issues, including national forest management, energy development, livestock grazing reform, national park protection, and threats to the Arctic National Wildlife Refuge;
- An Environmental Grantmakers of America (EGA) Institute session on public lands at the annual EGA retreat in Hawaii;
- A post election briefing in Washington, DC on public lands policy and management, in conjunction with the EGA Federal Policy Briefing; and
- A Spring 2005 funders briefing to take an in-depth look at public lands advocacy in the coming year, building upon the December post-election briefing but looking in greater detail at specific campaigns and collaborative opportunities.

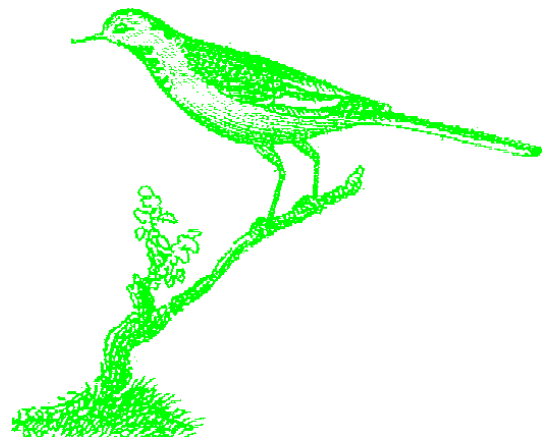


Health and Environmental Funders Network (HEFN)

Diversity of approaches can be as essential in civil society as it is in ecosystems. Environmental health funders have a growing body of successful experiences supporting strategic collaboration among diverse non-profit groups. From Health Care Without Harm to the Collaborative on Health and the Environment to the Keep Antibiotics Working Campaign, HEFN funders increasingly are funding collaboratively, and funding through collaboratives, at the intersection of environment and health.

Such collaborative efforts often are proving to be effective vehicles for weaving synergies among groups and focusing them strategically to meet shared objectives. Collaboratives also help combat a common phenomenon in philanthropy-NGO relations, namely that the quest for funding tends to create incentives to differentiate and compete, rather than incentives to work together.

There are caveats: collaboratives are not always the appropriate mechanism for organizing work in a field, they don't always work well, and there is no "one-type-fits-all" approach to a successful collaborative. Those notwithstanding, the growing body of experience within HEFN about collaborative approaches is yielding interesting lessons and possible models for the future. The "collaboration among collaboratives" also is helping form long-lasting relationships in this field, across groups, regions, and sectors.



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*"Dr. Steinhauser's experiments are concerned with the possibility
of converting toxic chemical waste into booze."*

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